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United States Patent [19]**Hotto**[11] **Patent Number:** **5,627,558**[45] **Date of Patent:** ***May 6, 1997**[54] **DC INTERATING DISPLAY DRIVER
EMPLOYING PIXEL STATUS MEMORIES**[58] **Field of Search** 345/87, 94, 96,
345/101, 100, 148[75] **Inventor:** **Robert Hotto**, 3109 Evening Way, La
Jolla, Calif. 92037[56] **References Cited**
U.S. PATENT DOCUMENTS[73] **Assignee:** **Robert Hotto**, La Jolla, Calif.

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[*] **Notice:** The term of this patent shall not extend
beyond the expiration date of Pat. No.
5,280,280.*Primary Examiner*—Jeffery Brier
Attorney, Agent, or Firm—John L. Rogitz[57] **ABSTRACT**

This invention relates to an improved drive and control means for matrix addressable electro-optic displays, such as passive matrix LCDs and active matrix LCDs. The present invention achieves improved drive and control of displays through the use of real time computation and memory circuits to simulate the electro-optic condition and the accumulated DC bias of individual display elements. This eliminates the burden of frequent and symmetrical reversals of the drive polarity, and allows the implementation of flexible DC drive methodologies.

[21] **Appl. No.:** **446,898**[22] **Filed:** **May 17, 1995****Related U.S. Application Data**[63] Continuation of Ser. No. 88,256, Jul. 7, 1993, Pat. No.
5,444,457, which is a continuation of Ser. No. 705,190, May
24, 1991, Pat. No. 5,280,280.[51] **Int. Cl.⁶** **G09G 3/36**[52] **U.S. Cl.** **345/94****29 Claims, 7 Drawing Sheets**